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OBSTRUCTIVE SLEEP APNEA AND CARDIOEMBOLIC RISK ASSESMENT IN PATIENTS WITH ATRIAL FIBRILLATION: CHADS2 OR CHADS2S?

Poster Contributions
Hall C
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Background: Obstructive sleep apnea (OSA) is an independent risk factor for ischemic stroke (CVA) that is not included in cardioembolic risk assessment for patients with atrial fibrillation (Afib).

Methods: A retrospective study of patients from Danbury Hospital was conducted to investigate the association of OSA and CVA in patients with Afib. Patients with Afib diagnosed with OSA based on polysomnography, and those with a negative sleep study were identified from medical records (2009-2010). The occurrence of first time CVA was identified for both groups. CHADS2 score and CVA prophylaxis regimen were recorded, as were age, gender, body mass index, smoking, hypertension, hyperlipidemia, congestive heart failure, coronary artery disease (CAD), diabetes mellitus and results of overnight polysomnography. Univariate and multiple logistic regression analyses were performed and statistical significance was set at $p<0.05$.

Results: Of 3984 patients screened for OSA, 223 (5.6%) had Afib and were included in the study. OSA was identified in 189 patients (84.8%). The occurrence of first time CVA or TIA was 23.8%. Mean age of patients with OSA was higher compared with non-OSA patients (69 versus 64.3 years). All other covariates were similar between the groups, except for CAD. On univariate analysis, CVA was more common among patients with OSA compared to non-OSA patients (32.3% vs 5.9%, $p=0.0004$). After controlling for age and CAD, the association between OSA and CVA remained statistically significant (adjusted odds ratio 6.5; 95% CI 1.83-41.88). A dose effect of the apnea-hypopnea index (up to 30) on the rate of CVA was observed ($p=0.0045$). The effects of minimal oxygen saturation and time spent with saturation below 90% on CVA risk were analyzed as well. Incremental increase in the rate of CVA in OSA patients was observed across CHADS2 scores.

Conclusions: Afib patients with OSA were more likely to have had a stroke after accounting for all confounders. This association may have important clinical implications in CVA risk stratification, however prospective studies are needed to further explore this relationship.